

REMARKS

Claim Rejection - 35 USC § 103

Claims 1-5, 11-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065) in view of Roitman et al. (US 6,680,570). It is noted Yamanaka (presumably US 5,751,383 cited on PTO-892) is also referenced regarding claims 11-13, but is not included in the statement of the rejection.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065), as applied to claim 1 above, and further in view of Webster (US 5,274,405).

Claims 8-10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065), as applied to claim 1 above, and further in view of Melville (US 6,205,275).

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065), as applied to claim 1 above, and further in view of Lowry et al. (US 6,396,985).

The above rejections are respectfully traversed, in view of the following arguments.

Regarding the rejection of claims 1-5, 11-13 and 16-20, the Examiner states that admitted prior art discloses an OLED display device comprising a substrate (12), an array of OLED elements (30, 19, 18) wherein the light emitted is incoherent (for example, see Fig. 1 of the present application), the Briggs reference teaches an OLED display device that uses a fiber-optic faceplate (see for example Fig. 3), and the Roitman reference teaches the OLED elements defining an optical cavity so as to provide an improved OLED that has a predictable color output (for example, see col. 1, lines 40-44 and col. 2, lines 41-64), and that one of ordinary skill in the art would have found it obvious to use a fiber-optic faceplate as taught by Briggs in place of the transparent substrate of

the admitted prior art in order to provide greater luminance and better contrast, and to have the OLED elements define an optical cavity as taught by Roitman so as to provide an OLED with better color control.

While individual elements of the claimed invention may be separately disclosed in the prior art, the references do not suggest their combination in accordance with the present invention, and to the contrary the proposed combination would be taught against by the cited references. In particular, as essentially noted by the Examiner, the use of optical cavities such as taught by Roitman is for the expressly taught purpose of providing an OLED that has improved predictable color output. As taught therein, such predictability is achieved by specifically designing the optical cavity to have a defined optical path length between reflectors of $N\lambda/2$, where λ is the desired predetermined peak wavelength of the emitted light. Such defined predictability, however, is only with respect to the wavelength (and hence color) of light emitted normal to the microcavity device, as the optical path length between the reflectors of the microcavity will vary at angles other than normal. Use of a fiber optic faceplate in accordance with the present invention would be taught against by the desired color control feature of Roitman, as off-angle (and thus “off-color” relative to the desired predetermined wavelength λ) emission would be passed into the fibers and mixed with the desired wavelength emitted light, thus resulting in a less color controlled emission, as the mixed light would be viewed even at an angle normal to the display. Thus, the prior art does not teach or suggest, or otherwise establish a prima facie case of obviousness, with respect to combining an optical cavity with a fiber optic face plate in an OLED display device in accordance with the present claimed invention.

Applicants’ invention, on the other hand, is directed towards providing a distinct advantage of reduced color change dependency on viewing angle as clearly identified in the present specification at page 6, lines 3-9, where it is stated that the use of an optical cavity in conventional practice in a display application has a significant drawback of color change as the display is viewed at angles other than the orthogonal, and that the invention reduces such dependency on viewing angle. More specifically, where optical cavity structures are employed in combination with a fiber-optic faceplate in accordance with the invention, no such disadvantage is seen as emitted light that passes into the optical

fibers will be reflected and mixed as it passes through the fiber. Further, as discussed at page 4, line 26 to page 5, line 21, the use of an optical cavity in combination with a fiber-optic face plate advantageously increases the amount of light emitted orthogonally to the surface of the OLED light emitting element, thereby increasing the amount of light taken into the optical fibers. Thus, the present invention enables the advantage of increased light output to be obtained without the disadvantage of increased color change angle dependency. Such combination of advantages is not taught or suggested by the cited prior art, and the present invention of claim 1 and the dependent claims is accordingly believed patentable thereover. Claim 1 has been amended consistent with such specific feature, and reconsideration of this rejection is respectfully requested.

In response to the Applicant's argument that the combined advantages are not taught or suggested by the cited prior art, the Examiner argues that the fact that applicant has recognized "another" advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. In the instant case, however, Applicants respectfully urge that in addition to not teaching the combined advantages of the present claimed invention, the cited prior art also does not establish a prima facie case of obvious for combining a microcavity designed for a specific color control feature based on specifically designed cavity spacing with an optical fiber face plate for the individually taught advantages, but rather would teach against such combination as such combination would negatively impact the desired color control (for orthogonal viewing) taught by Roitman as explained above.

Regarding claims 6-10 and 14-15, the further applied references of Webster, Melville and Lowry et al. also fail to teach the specifics of the invention as claimed in claim 1, and thus such dependent claims are also believed patentable over the applied art for at least the same reasons.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.